

### Amendments to the Claims

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Canceled)
8. (Previously presented) A method for controlling cooling/heating of a heat pump system, the method comprising:
  - (a) controlling a compressor so that a flow rate of a refrigerant is reduced when the heat pump system is switched from a cooling mode to a heating mode or from the heating mode to the cooling mode; and
  - (b) controlling a four-way valve so that a flow direction of the refrigerant is changed into an opposite direction when the flow rate of the refrigerant after the step (a) is reduced;wherein the four-way valve in the step (b) is controlled to convert the flow direction of the refrigerant into the opposite direction, in case that the flow rate of the refrigerant reaches zero

(0).

9. (Previously presented) A method for controlling cooling/heating of a heat pump system, the method comprising:

(a) controlling a compressor so that a flow rate of a refrigerant is reduced when the heat pump system is switched from a cooling mode to a heating mode or from the heating mode to the cooling mode; and

(b) controlling a four-way valve so that a flow direction of the refrigerant is changed into an opposite direction when the flow rate of the refrigerant after the step (a) is reduced;

wherein the four-way valve in the step (b) is controlled such that power is supplied to the four-way valve when the heat pump system is switched from the cooling mode to the heating mode, and a power supply to the four-way valve is cut off when the heat pump system is switched from the heating mode to the cooling mode.

10. (Currently amended) A method for controlling cooling/heating of a heat pump system, the method comprising:

(a) stopping a compressor when the heat pump system is switched from a cooling mode to a heating mode or from the heating mode to the cooling mode;

(b) ~~operating~~ controlling a four-way valve so as to convert a flow direction of the refrigerant into an opposite direction after a ~~designated~~ predetermined time from the stoppage of the compressor in the step (a) elapses; and

(c) re-operating the compressor after the step (b).

~~wherein the four-way valve in the step (b) is controlled to convert the flow direction of the refrigerant into an opposite direction, in case that a flow rate of the refrigerant is reduced to less than a designated rate.~~

11. (Currently amended) A heat pump system, comprising:  
a compressor; and  
a four-way valve connected to the compressor for changing a flow direction of a refrigerant flowing through the heat pump system;

wherein the compressor is ~~controlled so that a flow rate of the refrigerant is reduced~~  
stopped when the heat pump system is switched from a cooling mode to a heating mode or  
from the heating mode to the cooling mode;

wherein the four-way valve is controlled so that the flow direction of the refrigerant is  
~~changed~~ converted into a first an opposite direction ~~when the flow rate of the refrigerant is~~  
~~reduced~~ after a predetermined time from the stoppage of the compressor elapses;

~~wherein the four-way valve is controlled to convert the flow direction of the refrigerant~~  
~~into a second direction, in case that the flow rate of the refrigerant is reduced to less than a~~  
~~designated rate.~~

wherein the compressor is re-operated after the flow direction of the refrigerant is  
converted.

12 (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)